

Interactive comment on “Spatial and temporal aspects of greenhouse gas emissions from Three Gorges Reservoir, China” by Y. Zhao et al.

Anonymous Referee #1

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Dear Editor, The manuscript has a great methodological fail considering the extrapolation of flux figures to the entire reservoir and with comparisons with other reservoirs and energy sources. The problem is the following: when you adopt only the floating chambers to capture diffusive and ebullive fluxes from water-air interface you will need a strong sampling efforts to capture the variability of bubbles in the experiment. The two main process os gas evasion from waters surface to the air are diffusion process and bubbling process. When you choose only diffusion chambers (with small diameter) you do not consider the large variability of bubbles in the space and in the time. The small surface area of diffusion chambers cannot capture the randomic bubbles that appears at the reservoirs surface and the small equilibrium time of diffusive floating chambers are inadequate to capture this effect also. The best way to capture this variability of this randomic process is a set of funnels with diameters of 0,5 m2 in the equilibrium

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at water-air surface for 24 four hours at least. The solution of this big problem is the authors only consider the diffusive fluxes of your study and promote comparisons with others reservoirs only. For me the manuscript have a huge undersizing of fluxes considering only diffusive floating chambers to capture the both transportation process. Cordially.

Interactive comment on Biogeosciences Discuss., 9, 14503, 2012.